
VMap mid-level database (version 12)

Metadata:

- [Identification Information](#)
- [Data Quality Information](#)
- [Spatial Data Organization Information](#)
- [Spatial Reference Information](#)
- [Entity and Attribute Information](#)
- [Distribution Information](#)
- [Metadata Reference Information](#)

Identification Information:

Citation:

Citation Information:

Originator: USDA Forest Service, Northern Region, Engineering, Geospatial Group

Publication Date: 04/13/2012

Publication Time: 12:00

Title:

VMap_Mid

Geospatial Data Presentation Form: vector digital data

Series Information:

Publication Information:

Publication Place: Missoula, MT

Publisher: USDA Forest Service, Northern Region, Engineering, Geospatial Group

Online Linkage: https://fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5366401.zip

Larger Work Citation:

Citation Information:

Publication Date:

Title:

Series Information:

Publication Information:

Description:

Abstract:

VMap is a multi-level, existing vegetation geospatial database used to produce four primary map products; lifeform, tree canopy cover class, tree diameter, and tree dominance type. Additional add-ons to the database are included for Eastside forests to address non-forest map classes (e.g., grassland and shrubland dominance types, shrub canopy cover, and non-forest litter). The VMap database can produce products to meet information needs at various levels of analysis according to National and Regional direction established by the Existing Vegetation Classification and Mapping Technical Guide (Brohman and Bryant, 2005) and the Region 1 Multi-level Classification, Mapping, Inventory, and Analysis System (Berglund and others, 2009). This feature class (VMap_Mid) is to be used at mid-levels (e.g., forest-wide) of analysis

and contains features at least 1 acres in size. This mid-level feature class was constructed from the base-level feature class and associated attributes. The details of vegetation classification, base-level database development, and VMap accuracy assessment are included in a variety of documents posted on the VMap web site (<http://www.fs.fed.us/r1/gis/VMapWebPage.htm>).

This product was created by using an iterative and interactive process. Existing vegetation was described at multiple levels of spatial and thematic resolution.

As a first step in the vegetation classification process, each stand polygon of the landscape was described by a suite of spectral and biophysical attributes. In total, the mean value of each of thirty seven different layers of information was summarized for each polygon. All of the information was derived from various levels of remotely sensed imagery, and topographically derived grid-based data layers. To provide a consistent processing environment, all data layers were formatted to ten meter pixel dimensions. This required that some data layers were generalized from 1m to 10m, while others were refined from 30m to 10m. The spectral information used in this project is based on imagery collected in 2009, as that was the date the initial stand polygon delineation was based on.

It has since been found that a better and more efficient method for producing a Base and Mid level database is to "smooth" the segmentation on the Base level, drastically reducing the number of vertices within the database and dramatically increasing the computational efficiency of the database.

Purpose:

This dataset was produced for use at mid levels of analysis and planning.

Time Period of Content:

Time Period Information:

Single Date/Time:

Calendar Date: 04/13/12

Currentness Reference:

publication date

Status:

Progress: Complete

Maintenance and Update Frequency: As needed

Spatial Domain:

Bounding Coordinates:

West Bounding Coordinate: -115.005919

East Bounding Coordinate: -112.818034

North Bounding Coordinate: 49.066577

South Bounding Coordinate: 47.158056

Keywords:

Theme:

Theme Keyword Thesaurus: satellite imagery

Theme Keyword: Landsat 7

Theme Keyword: R1-VMap

Theme Keyword: eCognition

Theme Keyword: lifeform

Theme Keyword: tree dominance type

Theme Keyword: tree canopy cover

Theme Keyword: tree size

Theme Keyword: hierarchical classification

Theme Keyword: Biology, Ecology, and Biophysical

Place:

Place Keyword: Northern Rockies

Access Constraints: This dataset is in the public domain, and the recipient may not assert any proprietary rights thereto nor represent it to anyone as other than a dataset produced by the USDA Forest Service, Northern Region.

Use Constraints:

The USDA Forest Service manages resource information and derived data as a service to USDA Forest Service users of digital geographic data. The USDA Forest Service is in no way condoning or endorsing the application of these data for any given purpose. It is the sole responsibility of the user to determine whether or not the data are suitable for the intended purpose. It is also the obligation of the user to apply those data in an appropriate and conscientious manner. The USDA Forest Service provides no warranty, nor accepts any liability occurring from any incorrect, incomplete, or misleading data, or from any incorrect, incomplete, or misleading use of these data.

Point of Contact:

Contact Information:

Contact Person Primary:

Contact Person: Don Patterson

Contact Organization: USDA Forest Service, Northern Region, Engineering, Geospatial Group

Contact Position: Geospatial Services Group Leader

Contact Address:

Address Type: physical address

Address:

200 East Broadway

City: Missoula

State or Province: MT

Postal Code: 59802

Country: USA

Contact Address:

Address Type: mailing address

Address:

P.O.Box 7669

City: Missoula

State or Province: MT

Postal Code: 59807

Country: USA

Contact Voice Telephone: 406.329.3430

Contact Facsimile Telephone: 406.329.3198

Contact Electronic Mail Address: dpatterson01@fs.fed.us

Hours of Service: Monday-Friday, 8am-4:30 pm (MST)

Contact Instructions:

email preferred

Native Data Set Environment:

Microsoft Windows XP Version 5.1 (Build 2600) Service Pack 3; ESRI ArcCatalog
9.3.1.3000

[Back to Top](#)

Data Quality Information:

Positional Accuracy:

Horizontal Positional Accuracy:

Horizontal Positional Accuracy Report:

<15 meters

Quantitative Horizontal Positional Accuracy Assessment:

Horizontal Positional Accuracy Value: 15

Lineage:

Source Information:

Source Citation:

Citation Information:

Title:

VMap Base-level Feature Class

Source Time Period of Content:

Time Period Information:

Single Date/Time:

Source Currentness Reference:

ground condition

Source Citation Abbreviation:

VMap_Base

Source Contribution:

This is the starting features from which the mid-level feature class was constructed.

Source Information:

Source Citation:

Citation Information:

Title:

Orthorectified NAIP data (imagery)

Type of Source Media: CD-ROM

Source Time Period of Content:

Time Period Information:

Single Date/Time:

Calendar Date: July & August/2009

Source Currentness Reference:

ground condition

Source Citation Abbreviation:

summer imagery

Source Contribution:

These are the four channel NAIP image data.

Source Information:

Source Citation:

Citation Information:

Title:

Texture image bands

Source Citation Abbreviation:

Texture

Source Contribution:

A series of calculations of texture were created from the color infrared NAIP imagery and used in the eCognition segmentation and map classification. Texture calculates a variance (minimum, mean) from an adaptive window around each pixel as its measure of texture. The resulting texture image or band is a composite of minimum variance values calculated for each pixel. Two sets of three banded texture images were created using these focal windows and parameters: The first three banded image was created from 1m NAIP using a minimum variance and focal windows of (3x3), (5X5), and (9X9), then resampled back to 5meters; the second three banded texture image was created from 5m NAIP using a mean variance and focal windows of (3X3), (5X5) and (9x9) .

Process Step:

Process Description:

The MID level product was created by re-segmenting the landscape based on the current base level data. The polygons are segmented using a larger compactness value which produces larger polygons. This dataset is to be used in MID level analysis.

Process Contact:

Contact Information:

Contact Person Primary:

Process Step:

Process Description:

A majority vegetation attribute class was assigned to each resulting polygon using a ZONAL MAJORITY function based on the base-level product.

Process Step:

Process Description:

Metadata imported.

Source Used Citation Abbreviation:

C:\DOCUME~1\cfisher\LOCALS~1\Temp\xmlE.tmp

Process Date: 20110404

Process Time: 09184100

Process Step:

Process Description:

Metadata imported.

Source Used Citation Abbreviation:

C:\DOCUME~1\hweldon\LOCALS~1\Temp\xml90A5.tmp

Process Date: 20120329

Process Time: 15291900

Process Step:

Process Description:

Metadata imported.

Source Used Citation Abbreviation:

C:\DOCUME~1\hweldon\LOCALS~1\Temp\xml3023.tmp

Process Date: 20120413

Process Time: 08504800

Process Step:

Process Description:

Metadata imported.

Source Used Citation Abbreviation:

C:\DOCUME~1\hweldon\LOCALS~1\Temp\xml3026.tmp

Process Date: 20120413

Process Time: 09080400

[Back to Top](#)

Spatial Data Organization Information:

Direct Spatial Reference Method: Vector

Point and Vector Object Information:

SDTS Terms Description:

SDTS Point and Vector Object Type: G-polygon

Point and Vector Object Count: 180352

[Back to Top](#)

Spatial Reference Information:

Horizontal Coordinate System Definition:

Planar:

Map Projection:

Map Projection Name: Albers Conical Equal Area

Albers Conical Equal Area:

Albers Conical Equal Area

Standard Parallel: 46.000000

Standard Parallel: 48.000000

Longitude of Central Meridian: -109.500000

Latitude of Projection Origin: 44.000000

False Easting: 600000.000000

False Northing: 0.000000

Planar Coordinate Information:

Planar Coordinate Encoding Method: coordinate pair

Coordinate Representation:

Abscissa Resolution: 0.000100

Ordinate Resolution: 0.000100

Planar Distance Units: meters

Geodetic Model:

Horizontal Datum Name: North American Datum of 1983

Ellipsoid Name: Geodetic Reference System 80

Semi-major Axis: 6378137.000000

Denominator of Flattening Ratio: 298.257222

Vertical Coordinate System Definition:

Altitude System Definition:

Altitude Resolution: 0.000100

Altitude Encoding Method: Explicit elevation coordinate included with horizontal coordinates

[Back to Top](#)

Entity and Attribute Information:

Detailed Description:

Entity Type:

Entity Type Label: VMap_Mid

Attribute:

Attribute Label: OBJECTID

Attribute Definition:

Internal ESRI number

Attribute Definition Source:

ESRI

Attribute Domain Values:

Unrepresentable Domain:

Sequential unique whole numbers that are automatically generated.

Attribute:

Attribute Label: SHAPE

Attribute Definition:

Internal ESRI number

Attribute Definition Source:

ESRI

Attribute Domain Values:

Unrepresentable Domain:

Coordinates defining the features.

Attribute:

Attribute Label: FOREST_ID

Attribute Definition:

Polygon unique identifier

Attribute:

Attribute Label: ACRES

Attribute Definition:

Area of the polygon in acres

Attribute:

Attribute Label: LIFEFORM

Attribute Definition:

Enumerated_Domain 3100 HERB - Herbaceous

Enumerated_Domain 3300 SHRUB - Shrubland

Enumerated_Domain 4000 TREE - Tree

Enumerated_Domain 5000 WATER - Water

Enumerated_Domain 7000 SPVEG - Sparsely Vegetated

Attribute:

Attribute Label: DOM_MID_40

Attribute Definition:

Enumerated_Domain 3100 HERB - Herbaceous

Enumerated_Domain 3300 SHRUB - Shrub

Enumerated_Domain 5000 WATER - Water

Enumerated_Domain 7000 SPVEG - Sparsely vegetated

Enumerated_Domain 8015 MX-PIPO - Ponderosa pine dominated (>40% relative cover)

Enumerated_Domain 8025 MX-PSME - Douglas fir dominated (>40% relative cover)

Enumerated_Domain 8055 MX-PICO - Lodgepole pine dominated (>40%

relative cover)
 Enumerated_Domain 8065 MX-ABLA - Subalpine fir dominated (>40% relative cover)
 Enumerated_Domain 8075 MX-PIEN - Englemann spruce dominated (>40% relative cover)
 Enumerated_Domain 8125 MX-PIAL - Whitebark pine dominated (>40% relative cover)
 Enumerated_Domain 8155 MX-PIFL2 - Limber pine dominated (>40% relative cover)
 Enumerated_Domain 8165 MX-POPUL - Cottonwood dominated (>40% relative cover)
 Enumerated_Domain 8175 MX-POTR5 - Aspen dominated (>40% relative cover)
 Enumerated_Domain 8185 MX-JUNIP - Juniper dominated (>40% relative cover)
 Enumerated_Domain 8400 IMIX - Shade-intolerant conifer mix (no single species >40% relative cover)
 Enumerated_Domain 8500 TMIX - Shade-tolerant conifer mix (no single species >40% relative cover)
 Enumerated_Domain 8600 HMIX - Hardwood mix (no single species >40% relative cover)

Attribute:

Attribute Label: DOM_MID_60

Attribute Definition:

Enumerated_Domain 3100 HERB - Herbaceous
 Enumerated_Domain 3300 SHRUB - Shrub
 Enumerated_Domain 5000 WATER - Water
 Enumerated_Domain 7000 SPVEG - Sparsely vegetated
 Enumerated_Domain 8010 PIPO - Ponderosa pine dominated (>60% relative cover)
 Enumerated_Domain 8020 PSME - Douglas fir dominated (>60% relative cover)
 Enumerated_Domain 8050 PICO - Lodgepole pine dominated (>60% relative cover)
 Enumerated_Domain 8060 ABLA - Subalpine fir dominated (>60% relative cover)
 Enumerated_Domain 8070 PIEN - Englemann spruce dominated (>60% relative cover)
 Enumerated_Domain 8120 PIAL - Whitebark pine dominated (>60% relative cover)
 Enumerated_Domain 8150 PIFL2 - Limber pine dominated (>60% relative cover)
 Enumerated_Domain 8160 POPUL - Cottonwood dominated (>60% relative cover)
 Enumerated_Domain 8170 POTR5 - Aspen dominated (>60% relative cover)
 Enumerated_Domain 8180 JUNIP - Juniper dominated (>60% relative cover)
 Enumerated_Domain 8400 IMIX - Shade-intolerant conifer mix (no single species >60% relative cover)
 Enumerated_Domain 8500 TMIX - Shade-tolerant conifer mix (no single species >60% relative cover)
 Enumerated_Domain 8600 HMIX - Hardwood mix (no single species >60% relative cover)

Attribute:

Attribute Label: DOM_GRP_6040

Attribute Definition:

Enumerated_Domain 3100 HERB - Herbaceous
Enumerated_Domain 3300 SHRUB - Shrub
Enumerated_Domain 5000 WATER - Water
Enumerated_Domain 7000 SPVEG - Sparsely vegetated
Enumerated_Domain 8010 PIPO - Ponderosa pine dominated (>60% relative cover)
Enumerated_Domain 8013 PIPO-IMIX - Ponderosa pine intolerant conifer mix (>40% relative cover)
Enumerated_Domain 8020 PSME - Douglas fir dominated (>60% relative cover)
Enumerated_Domain 8023 PSME-IMIX - Douglas fir intolerant conifer mix (>40% relative cover)
Enumerated_Domain 8050 PICO - Lodgepole pine dominated (>60% relative cover)
Enumerated_Domain 8053 PICO-IMIX - Lodgepole pine intolerant conifer mix (>40% relative cover)
Enumerated_Domain 8054 PICO-TMIX - Lodgepole pine tolerant conifer mix (>40% relative cover)
Enumerated_Domain 8060 ABLA - Subalpine fir dominated (>60% relative cover)
Enumerated_Domain 8064 ABLA-TMIX - Subalpine fir tolerant conifer mix (>40% relative cover)
Enumerated_Domain 8070 PIEN - Englemann spruce dominated (>60% relative cover)
Enumerated_Domain 8074 PIEN-TMIX - Englemann spruce tolerant conifer mix (>40% relative cover)
Enumerated_Domain 8120 PIAL - Whitebark pine dominated (>60% relative cover)
Enumerated_Domain 8123 PIAL-IMIX - Whitebark pine intolerant conifer mix (>40% relative cover)
Enumerated_Domain 8150 PIFL2 - Limber pine dominated (>60% relative cover)
Enumerated_Domain 8153 PIFL2-IMIX - Limber pine intolerant conifer mix (>40% relative cover)
Enumerated_Domain 8160 POPUL - Cottonwood dominated (>60% relative cover)
Enumerated_Domain 8170 POTR5 - Aspen dominated (>60% relative cover)
Enumerated_Domain 8180 JUNIP - Juniper dominated (>60% relative cover)
Enumerated_Domain 8183 JUNIP-IMIX - Juniper intolerant conifer mix (>40% relative cover)
Enumerated_Domain 8400 IMIX - Shade-intolerant conifer mix (no single species >60% relative cover)
Enumerated_Domain 8500 TMIX - Shade-tolerant conifer mix (no single species >60% relative cover)
Enumerated_Domain 8600 HMITX - Hardwood mix (no single species >60% relative cover)

Attribute:

Attribute Label: TREECANOPY

Attribute Definition:

Enumerated_Domain	4001	CTR 10-24.9% - CTR 10-24.9%
Enumerated_Domain	4002	CTR 25-39.9% - CTR 25-39.9%
Enumerated_Domain	4003	CTR 40-59.9% - CTR 40-59.9%
Enumerated_Domain	4004	CTR >= 60% - CTR > 60%
Enumerated_Domain	3100	HERB - Herbaceous
Enumerated_Domain	3300	SHRUB - Shrub
Enumerated_Domain	5000	WATER - Water
Enumerated_Domain	7000	SPVEG - Sparsely vegetated
Enumerated_Domain	8600	TREE-DECID - Deciduous Tree

Attribute:

Attribute Label: TREESIZE

Attribute Definition:

Enumerated_Domain	4100	DBH 0-4.9" - Basal area weighted average diameter 0-4.9"
Enumerated_Domain	4200	DBH 5-9.9" - Basal area weighted average diameter 5-9.9"
Enumerated_Domain	4300	DBH 10-14.9" - Basal area weighted average diameter 10-14.9"
Enumerated_Domain	4400	DBH >= 15" - Basal area weighted average diameter > 15"
Enumerated_Domain	3100	HERB - Herbaceous
Enumerated_Domain	3300	SHRUB - Shrub
Enumerated_Domain	5000	WATER - Water
Enumerated_Domain	7000	SPVEG - Sparsely vegetated
Enumerated_Domain	8600	TREE-DECID - Deciduous Tree

Attribute:

Attribute Label: ELEV

Attribute Definition:

Average elevation of the polygon in meters

Attribute:

Attribute Label: ASP_CLS

Attribute Label: SLOPE

Attribute Definition:

Enumerated_Domain	9	Flat (slope < 10%)	
Enumerated_Domain	1	North (338-360 & 0-22 degrees)	
Enumerated_Domain	2	Northeast (23-68 degrees)	
Enumerated_Domain	3	East (68-112 degrees)	
Enumerated_Domain	4	Southeast (113-157 degrees)	
Enumerated_Domain	5	South (158-202 degrees)	
Enumerated_Domain	6	Southwest (203-247 degrees)	
Enumerated_Domain	7	West (248-292 degrees)	
Enumerated_Domain	8	Northwest (293-337 degrees)	Attribute:

Attribute Definition:

Average percent slope of the polygon

Attribute:

Attribute Label: SLOPE

Attribute:

Attribute Label: SHAPE_Length

Attribute Definition:

Length of feature in internal units.

Attribute Definition Source:

ESRI

Attribute Domain Values:

Unrepresentable Domain:

Positive real numbers that are automatically generated.

Attribute:

Attribute Label: SHAPE_Area

Attribute Definition:

Area of feature in internal units squared.

Attribute Definition Source:

ESRI

Attribute Domain Values:

Unrepresentable Domain:

Positive real numbers that are automatically generated.

[Back to Top](#)

Distribution Information:

Distributor:

Contact Information:

Contact Person Primary:

Contact Person: Jim Barber

Contact Organization: USDA Forest Service, Northern Region, Engineering, Geospatial Group

Contact Position: GIS Specialist

Contact Voice Telephone: 406-329-3093

Contact Facsimile Telephone: 406-329-3199

Contact Electronic Mail Address: jbarber@fs.fed.us

Hours of Service: M-F, 8am-4pm (MST)

Resource Description: R1-VMap Dataset

Distribution Liability:

The USDA Forest Service manages resource information and derived data as a service to USDA Forest Service users of digital geographic data.

The USDA Forest Service is in no way condoning or endorsing the application of these data for any given purpose. It is the sole

responsibility of the user to determine whether or not the data are suitable for the intended purpose. It is also the obligation of the

user to apply those data in an appropriate and conscientious manner.

The USDA Forest Service provides no warranty, nor accepts any liability occurring from any incorrect, incomplete, or misleading data, or from

any incorrect, incomplete, or misleading use of these data.

[Back to Top](#)

Metadata Reference Information:

Metadata Date: 20120413

Metadata Contact:

Contact Information:

Contact Organization Primary:

Contact Organization: USDA Forest Service, Northern Region, Engineering, Geospatial Group

Contact Person: Steve Brown

Contact Position: Region 1 Remote Sensing Specialist

Contact Address:

Address Type: mailing and physical address

Address:

P.O. Box 7669

Address:

200 East Broadway

City: Missoula

State or Province: MT

Postal Code: 59807

Country: USA

Contact Address:

Address Type: physical address

Address:

P.O. Box 7669

Address:

200 East Broadway

City: Missoula

State or Province: MT

Postal Code: 59807

Country: USA

Contact Voice Telephone: 406.329.3514

Contact Facsimile Telephone: 406.329.3198

Contact Electronic Mail Address: stevebrown@fs.fed.us

Hours of Service: M_F, 8am-4pm (MST)

Contact Instructions:

email preferred

Metadata Standard Name: FGDC Content Standards for Digital Geospatial Metadata

Metadata Standard Version: FGDC-STD-001-1998

Metadata Time Convention: local time

Metadata Extensions:

Online Linkage: <http://www.esri.com/metadata/esriprof80.html>

Profile Name: ESRI Metadata Profile

Metadata Extensions:

Online Linkage: <http://www.esri.com/metadata/esriprof80.html>

Profile Name: ESRI Metadata Profile

Metadata Extensions:

Online Linkage: <http://www.esri.com/metadata/esriprof80.html>

Profile Name: ESRI Metadata Profile

Metadata Extensions:

Online Linkage: <http://www.esri.com/metadata/esriprof80.html>

Profile Name: ESRI Metadata Profile

Metadata Extensions:

Online Linkage: <http://www.esri.com/metadata/esriprof80.html>

Profile Name: ESRI Metadata Profile

Metadata Extensions:

Online Linkage: <http://www.esri.com/metadata/esriprof80.html>

Profile Name: ESRI Metadata Profile

Metadata Extensions:

Online Linkage: <http://www.esri.com/metadata/esriprof80.html>

Profile Name: ESRI Metadata Profile

[Back to Top](#)